Instructor:
Dr. Myounggyu Won  
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Phone: 901-678-2792  
Office Hours: MW 12:00PM – 2:00PM, and by appointment

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Catalog Course Description: Hierarchy of storage devices, I/O buffering, interrupts, channels; multiprogramming,  
processor and job scheduling, memory management: paging, segmentation, and virtual memory; management of  
asynchronous processes; interrupt procedure calls, process stateword and automatic switch instructions,  
semaphores, concurrency; security and recovery procedures.

Prerequisite(s): COMP 2150, and either COMP 3410 or EECE 4278, or permission of instructor.

Description of Instructional Methods: This course is lecture oriented. Most lectures will be of a chalk and talk variety. Students will be encouraged to  
participate in numerous group discussions throughout the semester.

978-1-118-06333-0.

Software Required: None

Course Policy:
Attendance: It is crucial that you attend class regularly. You are responsible for all material covered during  
lectures. In-class exercises and quizzes will be given throughout the semester to assess your understanding of the  
lecture materials.

Evaluation consists of two in-class exams worth 100 points each, a final exam worth 150 points, and 15  
quizzes/in-class exercises worth 10 points each. Out of class homework assignments worth 250 points will be  
assigned during the semester. These will be a combination of 3 written assignments and 4 programming  
problems.

Assignments: Late assignments will be penalized 20% after the due date and are due at 11:59PM on the due  
date. If you have not completed your assignment by the due date, you should submit the work you have done for  
partial credit. No work will be accepted once the graded work has been returned or the solution has been  
disclosed to the class, except for unusual circumstances which the instructor feels reasonable. Note that any kind  
of hardware or software failure or machine unavailability in the lab does not merit an extension on the  
assignment.

Exams: Exams must be taken on the hour they are scheduled. In the event, if you cannot attend the class to take  
the exam due to some emergency or some unavoidable situation (such as serious illness, death in the family,  
participation in university sports, religious observations, and so on) you must notify me as soon as possible  
before the exam and also you must validate your absence by providing me a document (e.g., with a letter from  
your doctor).

Plagiarism/Cheating Policy: Plagiarism or cheating behavior in any form is unethical and detrimental to proper  
education and will not be tolerated. All work submitted by a student (projects, programming assignments, lab  
assignments, quizzes, tests, etc.) is expected to be a student's own work. The plagiarism is incurred when any  
part of anybody else's work is passed as your own (no proper credit is listed to the sources in your own work) so  
the reader is led to believe it is therefore your own effort. Students are allowed and encouraged to discuss with
each other and look up resources in the literature (including the internet) on their assignments, but appropriate references must be included for the materials consulted, and appropriate citations made when the material is taken verbatim. If plagiarism or cheating occurs, the student will receive a failing grade on the assignment and (at the instructor’s discretion) a failing grade in the course. The course instructor may also decide to forward the incident to the University Judicial Affairs Office for further disciplinary action. For further information on U of M code of student conduct and academic discipline procedures, please refer to: http://www.people.memphis.edu/~jaffairs/

ABET Learning Outcome:

1. Recognize the role and responsibility of the operating system in the operation of a computer
2. Evaluate the processes and data structures used by the operating system to manage resources
3. Evaluate the operating system design components which provide an extended view of resources to processes
4. Analyze how the operating system and hardware cooperate to (i) boot a computer and (ii) start a process.
5. Analyze to identify how operating system avoid common operating system problems such as priority inversion, deadlock, etc.
6. Evaluate the Operating System design leading to user and kernel space.
7. Evaluate common operating systems services to perform tasks such as creation and deletion of processes and/or threads and communication between processes and/or threads.
8. Evaluate the various operating design methods which allow users to view view or change a running operating system’s configuration.

Expected Performance Criteria:

Assessment Tools: Written Assignments, Programming Assignments, Quizzes, and Exams.

<table>
<thead>
<tr>
<th>Assessment Tools</th>
<th>Points</th>
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<tbody>
<tr>
<td>Programming Assignments (4)</td>
<td>150</td>
</tr>
<tr>
<td>Written Assignments (3)</td>
<td>100</td>
</tr>
<tr>
<td>Quiz/In-class exercises (15)</td>
<td>150</td>
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<tr>
<td>Midterm 1</td>
<td>100</td>
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<tr>
<td>Midterm 2</td>
<td>100</td>
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<tr>
<td>Final Exam</td>
<td>150</td>
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<tr>
<td><strong>Total Points</strong></td>
<td>750</td>
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A+: >= 97.5%, A: >= 92.5%, A-: >= 90%
B+: >= 85%, B: >= 82.5%, B-: >= 80%
C+: >= 75%, C: >= 72.5%, C-: >= 70%
D+: >= 65%, D: >= 62.5%
F: < 62.5%.
<table>
<thead>
<tr>
<th>DATE (BY DAY OR WEEK)</th>
<th>TOPIC</th>
<th></th>
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</thead>
</table>
| Week 1 8/26, 8/28     | Course Overview  
  Chapter 1: Introduction | |
| Week 2 9/4            | Chapter 2: Operating System Structures | 9/2  
  Labor Day |
| Week 3 9/9, 9/11      | Chapter 3: Processes | |
| Week 4 9/16, 9/18     | Chapter 3: Processes  
  Chapter 4: Threads | |
| Week 5 9/23, 9/25     | Chapter 4: Threads | |
| Week 6 9/30, 10/2     | Chapter 5: Process Synchronization | |
| Week 7 10/7           | Midterm 1 | |
| Week 8 10/9           | Chapter 5: Process Synchronization | |
| Week 8 10/16          | Chapter 6: CPU Scheduling | 10/12 – 10/15  
  Fall Break |
| Week 9: 10/21, 10/23  | Chapter 6: CPU Scheduling  
  Chapter 7: Deadlocks | |
| Week 10: 10/28, 10/30 | Chapter 7: Deadlocks  
  Chapter 8: Main Memory | |
| Week 11 11/4, 11/6    | Chapter 8: Main Memory | |
| Week 12 11/11         | Midterm 2 | |
| Week 12 11/13         | Chapter 9: Virtual Memory | |
| Week 13 11/18, 11/20  | Chapter 10: Mass Storage Systems | |
| Week 14 11/25         | Chapter 11: File System Interface | 11/27 – 12/1  
  Thanksgiving Break |
| Week 15 12/2          | Chapter 13: I/O Systems | |